

PROCEEDINGS
OF THE
BIOLOGICAL SOCIETY OF WASHINGTONTWO NEW GENERA AND SPECIES OF THE
OSTRACOD FAMILY ENTOCYTHERIDAE
WITH A KEY TO THE GENERA

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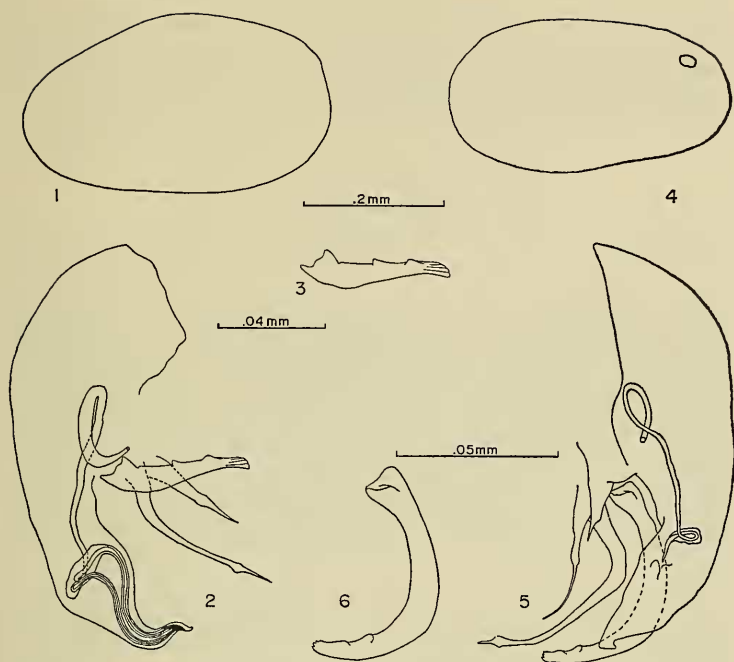
Two new genera and species of ostracods epizootic on crayfishes are described from Kentucky and South Carolina. A single specimen of *Plectocythere crotaphis* was taken from the burrowing crayfish, *Cambarus carolinus*, in Bell County, Kentucky. This ostracod is unusual in that each peniferum of the male is provided with two penis-like structures instead of the usual one. It has not been possible with the single specimen available to associate the ventral one, here designated the prostatic element, with the sperm duct, and perhaps only the dorsal one, the spermatic element, is functional as an organ of sperm transfer. An understanding of the relationship between the two must await the acquisition of a sufficiently large series of specimens for sectioning. Only *Ascetocythere asceta* (Hobbs and Walton, 1962) and *Cymocythere phyma* (*ibid.*) have been observed to have a similar penis complex, and while both were illustrated, the authors did not refer to the two elements in their descriptions.

Harpagocythere georgiae is not obviously closely allied to any other member of the family but shares with the members of the genus *Dactylocythere* a finger guard; its peniferum resembles, to some degree, that of *D. leptophylax* (Crawford, 1961) but the latter has a peculiar fold on the anteroventral portion and a strongly recurved, distally expanded clasping apparatus. The clasping apparatus of *H. georgiae* resembles that of members of the genus *Uncinocythere* (Hart, 1962) but is distinct.

The following key will provide for the identifications of the two new monotypic genera described herein.

A KEY TO THE GENERA OF THE FAMILY ENTOCYTHERIDAE
(modified from Hart, 1962)

- | | | |
|---------|---|-----------------------|
| 1. | Finger guard present | 2 |
| 1'. | Finger guard absent | 5 |
| 2(1). | Peniferum with accessory groove except in <i>D. leptophylax</i> in which the finger guard is slender and trifid | 3 |
| 2'. | Peniferum without accessory groove; finger guard never slender and trifid | 4 |
| 3(2). | Posteroventral portion of peniferum ending in a barbed point | <i>Sagittocythere</i> |
| 3'. | Posteroventral portion of peniferum variable but never ending in a barbed point | <i>Dactylocythere</i> |
| 4(2'). | Distal portion of peniferum bulbiform, clasping apparatus never extending so far ventrally as peniferum | <i>Cymocythere</i> |
| 4'. | Distal portion of peniferum slender, terminating in a small recurved projection, clasping apparatus extending ventrally beyond peniferum | <i>Harpagocythere</i> |
| 5(1'). | External border of clasping apparatus with a talon or excrescence | <i>Ankylocythere</i> |
| 5'. | External border of clasping apparatus entire | 6 |
| 6(5'). | Internal border of clasping apparatus with more than three teeth, apical cluster with more than two denticles, and vertical ramus straight | 7 |
| 6'. | Internal border of clasping apparatus usually with no more than three teeth; if more than three, with only two apical denticles or vertical ramus strongly convex posteriorly | 8 |
| 7(6). | Distal portion of peniferum slender and heavily cornified | <i>Rhadinocythere</i> |
| 7'. | Distal portion of peniferum neither slender nor cornified | <i>Entocythere</i> |
| 8(6'). | Peniferum with a subterminal bulbous expansion bearing one or more terminal projections and penis with separate spermatid and prostatic elements | 9 |
| 8'. | Peniferum never with a subterminal bulbous expansion and penis simple or with contiguous spermatid and prostatic elements | 10 |
| 9(8). | Distalmost portion of peniferum tapering to apex with tip of penis reaching apex | <i>Plectocythere</i> |
| 9'. | Distalmost portion of peniferum bearing a phalange and with penis emerging proximal to it | <i>Ascetocythere</i> |
| 10(8'). | Clasping apparatus reaching ventrally almost or as far ventrally as does peniferum | 11 |



FIGS. 1-3. *Plectocythere crotaphis*, new species. Fig. 1. Shell of holotypic male. Fig. 2. Copulatory complex of holotypic male. Fig. 3. Clasper of holotypic male. FIGS. 4-6. *Harpagocythere georgiae*, new species. Fig. 4. Shell of holotypic male. Fig. 5. Copulatory complex of holotypic male. Fig. 6. Clasper of holotypic male.

- 10'. Clasper apparatus not reaching nearly so far ventrally as does peniferum *Geocythere*
 11(10). Penis heavily cornified and always longer than half length of distal portion of peniferum (from level of base of clasper apparatus distally) *Donnaldsoncythere*
 11'. Penis seldom heavily cornified and never more than half length of distal portion of peniferum *Uncinocythere*

Plectocythere, new genus

Etymology: *Plectocythere* (feminine)—*Plectus* (Gr.), twisted; so named because of the curved ventral extremity of the peniferum.

Diagnosis: Terminal tooth of mandible with cusps. Copulatory complex of male without finger guard; ventral portion of peniferum bulbous, terminating in a small, slender, curving projection; penis consisting of separate spermatic and prostatic elements that are not contiguous along

most of their courses, each element as long as, or longer than, clasping apparatus and reaching ventral extremity of peniferum; accessory groove absent; external border of clasping apparatus entire, internal border with two prominences, apex with four small, rounded scallops.

Type-species: Plectocythere crotaphis, new species

Plectocythere crotaphis, new species

(Figs. 1-3)

Etymology: crotaphis (Gr.), a pointed hammer; referring to the peniferum.

Male: Eye lacking. Shell (Fig. 1) ovate with ventral margin entire; greatest height slightly anterior to midlength. Length 0.420 mm, height 0.259 mm. Submarginal setae widely spaced anteriorly, posteriorly, and ventrally, absent dorsally. Terminal tooth of mandible with cusps.

Copulatory complex (Figs. 2 and 3)—As described in the generic diagnosis. Dorsal finger broad at base and two-thirds as long as slender ventral finger, the latter slightly curved at distal end of basal third. Clasping apparatus not clearly divisible into horizontal and vertical rami; short basal portion proximal to bend probably corresponds to vertical ramus.

Female: Unknown.

Type-locality: Crayfish burrow in a cultivated area near a small spring about 11 mi. NE junction of U. S. Hwy. 25E. and U. S. Hwy. 119 on Hwy. 119, Bell County, Kentucky.

Host: Cambarus carolinus Erichson (determined by Horton H. Hobbs, Jr.).

Holotype: Male, the only specimen known, has been placed in the United States National Museum (no. 111264).

Relationships: This species has its closest relationship with *Ascetocythere asceta*. The peniferum of each bears a subterminal bulbous expansion from which a pair of prominent slender penes extend ventrally to its apex and lacks an accessory groove. The clasping apparatus of each bears two teeth on the internal border of its distal half and the apex is without distinct denticles. The vertical ramus is less than one-fourth of the total length of the clasping apparatus.

Harpagocythere, new genus

Etymology: Harpagocythere (feminine)—*Harpago* (Gr.), hook; so named because of the recurved ventral projection of the peniferum.

Diagnosis: Terminal tooth of mandible with cusps. Copulatory complex of male with finger guard; ventral portion of peniferum slender and terminating in a small recurved projection, its ventral margin extending ventrally almost to same level as clasping apparatus; single penis less than one-fifth as long as clasping apparatus and situated op-

posite ventral portion of finger guard; accessory groove absent; external border of clasping apparatus entire, internal border of horizontal ramus with two prominences, apex with four small denticles, the upper one of which is not acute; extensions of horizontal and vertical rami forming an angle of approximately 70°.

Type-species: Harpagocythere georgiae, new species

Harpagocythere georgiae, new species
(Figs. 4-6)

I am pleased to name this species in honor of my mother, Georgia Blount Hobbs.

Male: Eyes present. Shell ovate, ventral margin with a shallow emargination slightly anterior to midlength, greatest height slightly posterior to midlength. Length 0.399 mm, height 0.210 mm. Submarginal setae evenly and widely spaced ventrally and a few posteriorly, absent dorsally and anteriorly. Terminal tooth of mandible with cusps.

Copulatory complex (Figs. 5 and 6)—As described in the generic diagnosis. Dorsal and ventral fingers slender; ventral finger strongly curved at distal end of proximal third. Finger guard less than half length of clasping apparatus with an acute terminal projection, the latter sometimes with a small posterior tooth at base.

Female: Unknown.

Type-locality: Crayfish burrow and stream in a small ravine, about 1.0 mi E Saluda River, and about 0.5 mi N State Rte. 183 on surfaced unnumbered road near Farris Bridge, Greenville County, South Carolina.

Additional locality: Burrow along small spring-fed run, about 5.5 mi NW Greenville, Greenville Co., South Carolina.

Types: The holotype and a dissected male paratype, the only specimens taken at the type locality, are deposited in the United States National Museum (nos. 111262 and 111263). A paratypic male is in the collection of C. W. Hart, Jr.

Hosts: The specimens from the type locality were recovered from the collecting jar containing *Cambarus carolinus* Erichson and *Cambarus latimanus* (LeConte), and the paratype was found on *Cambarus carolinus* (crayfish determinations by Horton H. Hobbs, Jr.).

Relationships: *Harpagocythere georgiae* has its closest affinities with those entocytherids possessing a small penis located high in the peniferum and a finger guard on the copulatory complex (members of the genera *Dactylocythere*, *Sagittocythere*, and *Cymocythere*). In the absence of an accessory groove, it resembles *C. cyma* (Hobbs and Walton, 1960) and *C. phyma* (Hobbs and Walton, 1962). The clasping apparatus is more similar to that of *S. barri* (Hart and Hobbs, 1961) than to that of any species. It differs from all entocytherids in possessing a comparatively slender peniferum with an anteroventral recurved projection. The superficial resemblance of the latter to that of *D. leptophylax* was pointed out above.

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